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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,226	02/09/2005	Norbert Lutz	1093-124 PCT/US	1533

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EXAMINER	
CULLER, JILL E	
ART UNIT	PAPER NUMBER
2854	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,226	LUTZ, NORBERT	
	Examiner	Art Unit	
	Jill E. Culler	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,5,7-9,11,12,15 and 17-20* is/are rejected.

7)☒ Claim(s) *2,3,6,10,13,14 and 16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20050209*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 4-5, 7-9, 11-12, 15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,858,298 to Humal in view of U.S. Patent No. 3,758,649 to Frattarola.

With respect to claim 1, Humal teaches a process for producing a marking on a substrate, 6, wherein energy in the form of radiation is introduced from a controllable energy source, 33, into a replication surface, 32, of a replication apparatus to produce at least one shaping region, wherein the shaping region of the replication surface is shaped on to the substrate by the replication apparatus contacting the substrate under pressure, and the shaping region is shaped on the substrate, 6, wherein the portion of the replication surface which is in the form of the heated region directly and/or indirectly forms the shaping region. See column 9, lines 1-27 and Fig. 8.

Humal does not teach that the replication surface, is subjected to a temperature control effect at least in a partial region using an additional controllable energy source, an energy input by radiation from the radiation source and an energy input from the additional controllable energy source is introduced into the replication surface so that at least one portion of the replication surface is in the form of a heat combination region.

Frattarola teaches a process for producing a marking on a substrate, 204, comprising subjecting a replication surface, 222, to a temperature control effect using a controllable energy source, 220. See column 4, lines 33-35 and Fig. 2.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of Humal to have the additional temperature control effect of Frattarola to form a heat combination region on at least a part of a replication surface in order to have better control over the temperature of the replication surface.

With respect to claim 4, Humal teaches the radiation introduced to produce the at least one shaping region is fed through the replication apparatus. See column 9, lines 1-27 and Fig. 8.

With respect to claim 5, Humal teaches a rotating replication roller having the replication surface on its outside is used as the replication apparatus and the radiation is introduced into the replication surface of the replication roller before and/or while the heat combination region resulting therefrom comes into contact with the substrate for the shaping operation. See column 9, lines 1-27 and Fig. 8.

With respect to claim 7, Humal teaches that introduction of the radiation into the replication surface of the replication roller is effected at a first angular position of the replication roller and the shaping operation by contact of the replication surface of the replication roller with the substrate is effected at a second angular position of the replication roller. See column 9, lines 1-27 and Fig. 8. Although Humal does not explicitly teach that, in the direction of rotation of the replication roller, an intermediate

angle of less than 30 degrees, in particular less than 5 degrees, is set between the first angular position and the second angular position, it would have been obvious to one having ordinary skill in the art at the time of the invention that the optimal size of the angle would vary with the particular application and therefore could best be determined through routine experimentation.

With respect to claim 8, Humal teaches the radiation acts over an area and/or in point form sequentially on the replication surface. See column 9, lines 1-27 and Fig. 8.

With respect to claim 9, Humal teaches the position of the impingement point of the radiation on the replication surface is controllable by a one-dimensional or multi-dimensional movement of the radiation and/or the power density in relation to surface area of the radiation at the impingement point of the radiation on the replication surface is controllable. See column 9, lines 1-27 and Fig. 8.

With respect to claim 11, Humal teaches an apparatus for producing a marking on a substrate, comprising a replication apparatus which is in the form of a replication roller, 30, wherein a replication surface, 32, is provided on an outside of the replication roller, a device for producing a radiation, 33, wherein the radiation for producing at least one shaping region is directed on to at least one portion of the replication surface, and a counterpressure apparatus which has a counterpressure surface, 31, wherein the substrate is arranged between the replication surface of the replication apparatus and the counterpressure surface of the counterpressure apparatus in order to shape the shaping region on to the substrate in a contact region between the replication surface and the substrate. See column 9, lines 1-27 and Fig. 8.

Humal does not teach that there is provided an additional heating apparatus for temperature control of the replication surface.

Frattarola teaches an apparatus for producing a marking on a substrate, 204, comprising subjecting a replication surface, 222, to a temperature control effect. See column 4, lines 33-35 and Fig. 2.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of Humal to have the temperature control effect of Frattarola in order to have better control over the temperature of the replication surface.

With respect to claim 12, Humal teaches the position in which the radiation acts on the portion of the replication surface during the irradiation operation and the position of the contact region between the replication surface and the substrate are arranged in overlapping relationship and/or in the direction of rotation of the replication roller with a spacing angle of a magnitude of less than 30.degrees. See column 9, lines 1-27 and Fig. 8.

With respect to claim 15, Humal teaches the counterpressure apparatus is in the form of a counterpressure roller, 31. See column 9, lines 1-27 and Fig. 8.

With respect to claim 17, Humal teaches the device for producing the radiation and/or a beam deflection unit is arranged within the counterpressure apparatus or within the replication roller. See column 9, lines 1-27 and Fig. 8.

With respect to claim 18, Humal teaches the radiation for producing the shaping regions is fed through the substrate.

With respect to 19, Humal does not teach that there is provided an apparatus for temperature control of the replication surface, namely a cooling apparatus for cooling the replication surface, in particular partial regions of the replication surface, which is preferably in the form of a blower, gas flow cooling, or a cooling roller.

Frattarola teaches a cooling apparatus, 230, for the marking device. See column 6, lines 40-50.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of Humal to have a cooling apparatus, as taught by Frattarola, to cool the replication surface in order to have better control over the temperature of the replication surface.

With respect to claim 20, Humal teaches the heating apparatus is provided for heating the replication surface is in the form of a blower, a heating laser device, an inductive heating device, resistance heating or a device for producing heat radiation. See column 9, lines 1-27 and Fig. 8.

Allowable Subject Matter

3. Claims 2-3, 6, 10, 13-14 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 4,547,141 to Ruschmann, U.S. Patent No. 5,115,737 to Amendola, U.S. Patent No. 5,771,796 to Morrison et al., and U.S. PGPUB 2003/0131740 to Butsch et al. each teach an apparatus having apparent similarities to the claimed subject matter.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill E. Culler whose telephone number is (571) 272-2159. The examiner can normally be reached on M-F 10:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jec

Patent Examiner